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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/777,867	02/07/2001	Achim Philipp	PHIL3005/JEK	4065

7590                    06/17/2002

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[REDACTED] EXAMINER

LUU, THANH X

[REDACTED] ART UNIT      [REDACTED] PAPER NUMBER

2878

DATE MAILED: 06/17/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

<b>Application No.</b> 09/777,867  <b>Examiner</b> Thanh X Luu	<b>Applicant(s)</b> PHILIPP ET AL.	
		Art Unit 2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

1) Responsive to communication(s) filed on 07 February 2001.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

4) Claim(s) 1-9 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-9 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 07 February 2001 is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.  
     If approved, corrected drawings are required in reply to this Office action.  
 12) The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All b) Some \* c) None of:  
 1.) Certified copies of the priority documents have been received.  
 2.) Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3.) Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
 \* See the attached detailed Office action for a list of the certified copies not received.  
 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
 a) The translation of the foreign language provisional application has been received.  
 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) 2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4 .	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s) _____. 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6) <input type="checkbox"/> Other: _____
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## DETAILED ACTION

This Office Action is in response to the preliminary amendment filed February 7, 2001. Claims 1-9 are currently pending.

### ***Specification***

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because it spans three paragraphs.

Correction is required. See MPEP § 608.01(b).

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1 and 6, the phrase "in particular" is analogous to the terms "such as" and "for example"; such terms render the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

In claim 1, line 4, it is unclear in its given context what "sensor and illumination units of the same kind" means. That is, what feature or characteristic makes the sensor and illumination units of the same kind?

In claim 2, line 1, it is unclear in its given context what "it" refers to.

In claim 5, it is unclear in its given context how the apparatus, itself, is checked for soiling when the sensors are only disposed about a transport path and focused on a single place.

In claim 6, lines 4-5, it is unclear in its given context how "light of different wavelength" is used when the bank note is illuminated with "light of the same wavelength." Further, in line 6, "the light diffusely reflected" lacks proper antecedent basis. It is unclear if Applicant intended to refer to diffusely reflected light of the same wavelength, of a different wavelength or both.

Claims 3, 4 and 7-9 are indefinite by virtue of their dependency on an indefinite claim.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1 and 3, as understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Naruse (U.S. Patent 4,723,072).

Regarding claim 1, Naruse discloses (see Figure 8) an apparatus for checking bank notes for their state of use (a soiling; see column 1, lines 55-58) with a transport device (see Figure 3; rollers 10; not shown in Figure 8) for transporting bank notes (2) along a transport path (A), characterized in that sensor and illumination units (102, 118; 100, 110) are disposed on both sides of the transport path, the sensor and illumination units being focused on a single place (the bank note 2).

Regarding claim 3, Naruse further discloses (see column 7, lines 54-55;) the sensors are a linear arrangement of a plurality of individual sensors ("line sensor") disposed perpendicular to the transport path (A). That is, from a top view (as shown in Figure 1) the sensors of Figure 8 are disposed perpendicular to the transport path.

#### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 2, 6 and 9, as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Naruse in view of Laskowski et al. (U.S. Patent 6,101,266).

Regarding claims 2, 6 and 9, Naruse discloses (see Figure 8) a method of checking bank notes for their state of use (soiling), wherein the bank notes are transported along a transport path (A), each bank note is illuminated on both sides simultaneously at the same place (at the bank note 2) with light of the same wavelength and intensity, and light diffusely reflected by both sides of each bank note is evaluated (see Figure 8, judging circuit) for checking the state of use of each bank note. Naruse further disclose (see Figure 8) the sensors imaging the bank note as it travels along the transport direction, thus, a one-dimensional evaluation is performed for checking the state of use. Naruse does not specifically disclose each illumination unit comprising two illumination sources of different wavelengths, which are operated alternately or using light of different wavelengths alternately in time. Laskowski et al. teach (see Figures 2 and 3) of a bank note inspection device and method in which two illumination sources (32) comprise two different wavelengths and are operated alternately (see column 7, lines 1-5). Laskowski et al. further teach (see column 8, lines 1-10) that a more complete inspection of bank notes is conducted by using multiple wavelengths of light. Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide alternately operated light sources with different wavelengths in the apparatus and method of Naruse in view of Laskowski et al. to improve the detection device by providing a more comprehensive inspection of bank notes.

10. Claims 7 and 8, as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Naruse in view of Laskowski et al. as set forth above, and further in

view of Liu et al. (U.S. Patent 6,040,584).

Regarding claims 7 and 8, Naruse discloses (see Figure 2) areas (4, 6) on the bank note are fixed in accordance with the currency and the denomination (see also column 3, lines 30-32). Naruse does not specifically disclose using a different imaging resolution for the areas. Liu et al. teach (see Figure 9 and column 10, lines 56-67) of a bank note inspection method that divides a bank note into different areas based on currency and denomination, and evaluates the bank note at different resolutions (further division of the regions; e.g. region 501 versus region 508). Liu et al. further teach (see column 10, lines 65-67) that the accuracy in detecting bank notes is increased with more divided regions or different resolutions. Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to image the areas at different resolutions in the method of Naruse in view of Laskowski and Liu et al. to improve detection by increasing the accuracy of inspection.

11. Claim 4, as understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Naruse in view of Mazur et al. (U.S. Patent 6,241,069).

Regarding claim 4, Naruse further discloses (see Figure 8) lenses (108, 116) provided before the sensors (110, 118) to produce a one-to-one image of the bank notes to be investigated on the sensors. Naruse does not specifically disclose using gradient lenses. Mazur et al. teach (see Figure 14b) of a bank note inspection apparatus using a linear arrangement of gradient lenses (114a and 114b). Mazur et al. further teach (see column 45, lines 19-24) that gradient lenses maximize the accuracy of the detection system. Thus, it would have been obvious to a person of ordinary skill

in the art at the time the invention was made to provide a linear array of gradient lenses before the sensors of Naruse in view of Mazur et al. to improve detection as taught.

12. Claim 5, as understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Naruse in view of Roes et al. (U.S. Patent 4,587,434).

Regarding claim 5, Naruse does not specifically disclose checking for soiling of the apparatus at an idle time when no bank note is being checked. Roes et al. teach (see column 10, lines 42-54) of a bank note inspection device in which at an idle time when no bank note is being checked, the apparatus performs self-diagnostics including self-calibration to compensate for dirt build up on the reference optical surfaces of the apparatus. Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made check for soiling of the apparatus of Naruse in view of Roes et al. at a time when the bank note is not being check in order to improve detection by performing self-diagnostics as taught.

### ***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ishida (U.S. Patent 4,352,988) discloses of a bank note inspecting device having a similar configuration.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh X. Luu whose telephone number is (703) 305-0539. The examiner can normally be reached on Monday-Friday from 6:30 AM - 4:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font, can be reached on (703) 308-4881. The fax phone number for the organization where the application or proceeding is assigned is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

txl  
June 13, 2002



Thanh X. Luu  
Patent Examiner